



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human PRMT1 Protein  
**Catalog Number:** hRP-0507  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Protein post-translational modification, such as arginine methylation not only plays a major role in epigenomic regulation, such as histone and transcription factor modification, but also regulates many RNA binding proteins functions. There are at least eight type I protein arginine N-methyltransferases (PRMTs) were identified from human genome. The protein encoded by human PRMT1 (protein arginine N-methyltransferase 1) gene belongs to the arginine N-methyltransferase family. Recent data indicated that human PRMT1 plays a important role in regulation AKT activities by methylation of BAD protein.

Full-length recombinant human PRMT1 cDNA (371 aa) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was expressed in *E. coli* as inclusion bodies, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** PRMT1 (HRMT1L2; ANM1; HCP1; IR1B4)  
**Accession Number:** NP\_001527.3  
**Species:** Human  
**Size:** 50 µg / Vial  
**Composition:** 0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

### Key References

Baldwin, G.S. et al., *Specific enzymic methylation of an arginine in the experimental allergic encephalomyelitis protein from human myelin*. Science 171 (3971), 579-581 (1971)



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Butler, J.S. et al., *Protein-arginine methyltransferase 1 (PRMT1) methylates Ash2L, a shared component of mammalian histone H3K4 methyltransferase complexes*. J. Biol. Chem. 286 (14), 12234-12244 (2011)

Yoshimatsu M, et al., *Dysregulation of PRMT1 and PRMT6, Type I arginine methyltransferases, is involved in various types of human cancers*. Int. J. Cancer 128 (3), 562-573 (2011)

Sakamaki, J., et al., *Arginine methylation of BCL-2 antagonist of cell death (BAD) counteracts its phosphorylation and inactivation by Akt* Proc. Natl. Acad. Sci. U.S.A. 108 (15), 6085-6090 (2011)

Lim SK, et al., *Activation of PRMT1 and PRMT5 mediates hypoxia- and ischemia-induced apoptosis in human lung epithelial cells and the lung of miniature pigs: the role of p38 and JNK mitogen-activated protein kinases*. Biochem. Biophys. Res. Commun. 440 (4), 707-713 (2013)

## **Applications**

1. May be used for in vitro human PRMT1 mediated AKT pathway regulation study for various cells by intracellular delivery this protein with “ProFectin” reagent.
2. May be used for mapping PRMT1 protein-protein interaction.
3. May be used for specific substrate protein for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential biomarker protein for monitoring renal-cell carcinoma diagnosis.
5. May be used as antigen for specific antibody production.

## **Quality Control**

1. Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHGNLYFQGGEFAAAEAAANCIMENFVATLANGMSLQPPLLEEVSCGQA



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ESSEKPNAEDMTSKDYYFDSYAHFGIHEEMLKDEVRTLTYRNSMFHNRHLFKDKVVLDVGSSTG  
ILCMFAAKAGARKVIGIECSSISDYAVKIVKANKLDHVVTIIK GKVEEVELPVEKVDIIISEWM  
GYCLFYESMLNTVLYARDKWLAPDGLIFPDRATLYVTAIEDRQYKDYKIHWWENVYGFDMSCIK  
DVAIKEPLVDVDPKQLVTNACLIEVDIYTVKVEDLTFTSPFCLQVCRNDYVHALVAYFNIEF  
TRCHKRTGFSTSPESPYTHWKQTVFYMEDYLTVKTGEEIFGTIGMRPNAKNNRDLDFITIDLDFK  
GQLCELS CSTDYRMR